

AMERICAN JOURNAL OF EDUCATION.



UNIVERSAL EDUCATION—THE SAFETY OF A REPUBLIC.

VOL. VI.—No. 4.

ST. LOUIS, APRIL, 1873.

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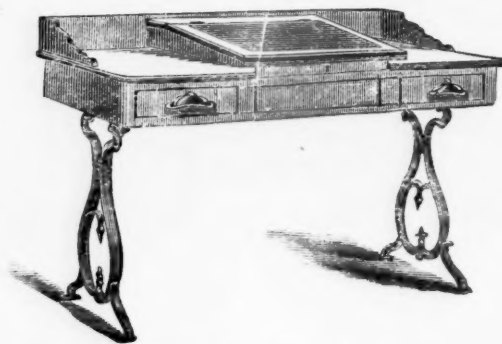
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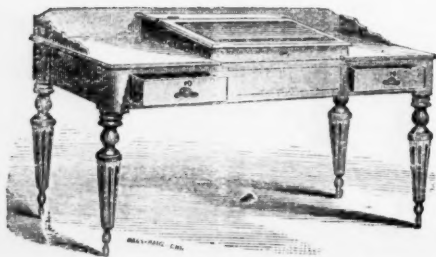
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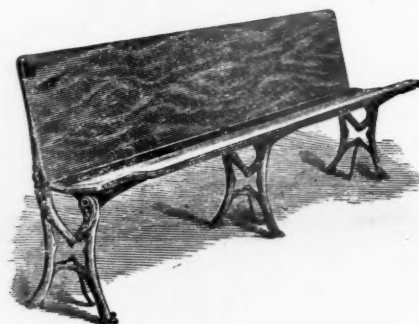
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TABLE OF CONTENTS.

	PAGE
Advertising Rates.....	3
Literature in Common Schools.....	3
A Noble Story.....	4
The University of Nebraska.....	5
Superintendent Monteith's Report.....	5
Des Peres School House.....	6
Our Teachers' Bureau.....	6
Problem.....	6
Beautiful Homes.....	7
Letter to the Young Folks about Railroads.....	7
Our Circulation.....	8
Education is Economy.....	8
Improve your Teachers.....	8
Too Much Money in It.....	8
A New Premium.....	9
More Careful Work.....	9
Washington University.....	9
The Money Value of Intelligence.....	10
Illiteracy in the United States.....	10
Froebel's Kindergartens.....	10
Newspapers as a Means of Culture.....	11
An Interesting Letter.....	11
Mrs. M.'s Short Call.....	11
Book Notices.....	12
The Editorial Convention.....	12
Excursion Tickets East.....	12
The American Financial Corporation.....	13

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THE writer hopes that this article may be practically suggestive; it will be concerning the introduction of certain matters of literary history and taste, into lower grades of schools than those where such subjects are now taught.

The subject is, in brief, "Literature in Common Schools." It is not altogether an easy one to consider.

An essay could readily be written regarding the importance of opening the treasures of English thought to the thousands of our less favorably situated children; the attractive beauty of these treasures, for even younger and less cultured minds, would serve for as ready a theme; but these are not the point.

We may assume as granted by all that recorded English thought and fancy are worth studying; that the great English thinkers and singers are worthy attention; that for the great body to know of these people and things would be good, very good.

The questions following these postulates are: Can literature be introduced into our Common Schools? By whom? How?

It is clear that literature cannot be introduced as a regular class study: expense of text-books, the undisciplined state of the pupils, and the already over-crowded schedules of most schools imperatively forbid; there is no hope or ground of appeal.

There has been, however, of late, a strong pressure for the introduction of various scientific and practical studies into common and lower schools, by means of oral instruction so arranged that recreation is afforded while information is conveyed and a proper taste awakened. This must be, if it come at all, the way of introducing literature. Is this feasible?

Why not with literature as well as with Botany and Physics?

The ends sought are eminently adapted to oral instruction: they are, an outline more or less extensive of past literature and, still more, the awakening of a taste for good reading and high thought. The latter, especially, can perhaps be better accomplished by oral teaching, in which

there must be something of personal sympathy, than in any other way. In my own teaching of English literature I have often been surprised to find how matters not named in the text-book, but upon which I have dwelt with strong personal emphasis, have awakened the attention, and clung to the memories of pupils. The facilities also, for oral instruction in this direction are no more difficult to obtain than those in the sciences.

Personal narratives may be made as interesting as even physical experiments. Even Father Chaucer, away back at the earliest outpourings of our English Helicon, may be made very vivid to children. Suppose that, after the manner of object teaching, a picture of Chaucer should be used, such as may easily be obtained; the short, queer-looking chap, with his quaint cap, and mounted on his ambling palfrey, would attract the pupils of any school at once. His account of the "House of Fame," the "Romance of the Flower and the Leaf," and many of the Canterbury Tales, might be made wonderfully interesting even to children. They would thus come to know who Chaucer was, and what he wrote; would be glad to learn when he lived, and all about him; and would enjoy somewhat, at least, the lesser beauties of the quaint old courtier's verse. To know who Geoffrey Chaucer was, and that the world remembers and honors a man who wrote English six hundred years ago, would be worth a few school minutes, surely. Common school children may not be able to understand close analysis of Shakspeare and Milton, Pope and Richardson, but they may learn some very definite things about these men—when and where they lived, what they did and how they did it; and may listen with something of appreciation to selections from their works. So with other classic English names. As the present is approached, there will be found more keys of interest to be touched; the authors will begin to act less like strangers, and selections can be readily made. Surely Dickens, with his brain-children, Little Nell and Paul Dombey and poor little Jo: with his Fat Boy and Dotheby Hall and Mrs. Squeers,

and scores on scores of pictures, could be introduced and made a familiar name to any school; so Cooper, with his sketches of forest and prairie; Hawthorne, with his "Wonder Book" and Ingoldsby Legends; Jean Ingelow; Mrs. Craik, Alice and Phoebe Cary; Mrs. Stowe's Queer Little People, and, in translation, Hans Andersen with his Legends; Labonlaye, with Tales of Fairy; Kirloff, with his Fables. Scores of our best and purest authors are available, all of whom can be made attractive subjects for any group of English-speaking children.

These authors, while they cannot be critically discussed, may be sketched; their names and prominent works made somewhat familiar. A little leaven from the thought of the past may be set working.

This is, to be sure, very little compared with the sum of English thought-wealth; but, absolutely, it must be for most young people a deal, and worth a deal. An intelligent taste for good reading and high thinking would be awakened, which would afterward, as facilities were offered, draw to itself, more and more, material and strength; a taste which would reject the miserable trash with which so many now satisfy intellectual cravings, until, by diseased taste, all mental appetite is lost and sensual longing takes its place. Moreover, even such brief sketches would inform the children who are good authors, which many wishing to read do not at all know. Thus there will come good choice for themselves, and a right guidance of others in selection. Comparatively few parents, eagerly willing to furnish to their children healthful, yet attractive, amusement by the winter fireside at home, know what to buy. Not knowing, they buy amiss; the effort fails; the children, if not harmed more than helped, seek amusement away from home influences, or, remaining at home, chafe as in bondage, and foster plans of future unrestrained indulgence. It is wise to teach children to observe closely, and surely, too, in this day when books good and bad so force themselves upon the attention of all. It is wise to teach them to read with a wise choice and intelligent appreciation.

Aside, however, from its introduction as a theme of formal oral instruction, literature may be incidentally taught in our schools with no little benefit. Our standard Readers contain selections from many of our best authors, and these selections may readily be made a basis for some appreciation of the style and knowledge of the life and character of each author.

In some Readers head or foot-notes give information in these directions; to these notes, when given, attention should be called, and explanation and information added if required. To be aware how much may be accomplished in this incidental way, we have but to notice the culture of children from families where books are constantly read and talked of.

The essays and declamations of school may also, with slight care, be made an avenue for some literary culture. Only declamations of good character and style should be allowed. For the essays, the older pupils should be, so far as possible, urged to prepare by reading, and should be guided in what they read. The pupils will thus, little by little, make for themselves a basis for improved taste and wider knowledge.

The current periodicals of the day, which are so wide a source of evil, may become with some effort instruments of good. Our children need not read weekly and monthly trash; they do so mainly because they know no better. Attractive placards win their attention; the cheap stuff, poor as it is cheap, is thrust upon them; they buy and read, and their appetite growing as it is fed, they soon come to wish and to endure nothing better than trash.

The teacher, working for an end beyond just now, and estimating the future thought-work of the pupils, may well play an advertising part. There are good papers and magazines in abundance for boys and girls, younger and older; they do not flaunt themselves in gaudy colors, nor do they boast their merits on gigantic lying posters; they will, however, when known, attract with a winsomeness which is stronger as purer. Let the teacher secure a few specimen copies—the mere postage will often obtain these; then let him strive to win the children to read, and after a little to take such for themselves. In suggestions for himself, in subjects for pleasant talk with pupils, and in themes for illustration and thought the teacher will be amply repaid, and the good done will be an ever-increasing profit. As practical, and in a detailed way, the following may be suggested:

Devote a part of one afternoon each

week to rhetorical and general exercises. Of this take thirty minutes for literature. Select, say a score of authors most likely to interest pupils, and about whom you can obtain needed facts; Chaucer, Shakspeare, Bacon, Milton, Pope, Bunyan, DeFoe, Swift, Goldsmith, Scott, Burns, Richardson, Moore, Dickens, Mrs. Craik, Jean Ingelow; Cooper, Irving, Bryant, Longfellow, Whittier, Saxe, Mrs. Stowe might find place on the list. For each lesson prepare a sketch. Select some brief, interesting extract, and practice its rendition. Be sure of your own interest and knowledge, and of how you may reach the pupils. Let the facts be few, and these the true salient points of life and character. Strive rather to awaken interest than to feed facts. Question the pupils as to their reception and understanding of principal statements made. Tell the pupils where more may be found about the author and by the author. Notes may be required from older pupils, or essays for the coming week from selected pupils; or, without requirement at all, the teacher may encourage thought in this direction. Even a few exercises of this kind, while not giving a wide range of information, might awaken interest which would grow mightily after awhile. To all which I have suggested there may be two objections:

First. "It is impracticable. Our teachers are, as a class, not familiar with literary history and criticism; they have not the proper books; libraries are few and meager."

Well, if it is thus, must it remain thus? Not if "the game" is deemed "worth the candle."

Any fairly qualified teacher may readily become somewhat familiar with the subject; the work may be done without class aid, and would be a very pleasant as well as profitable task. But few books are *essential*; any of the briefer text-books on English literature, Royce's *American Literature*, Miss Sanborn's *Home Sketches of English Poets*, and, if possible, Chambers' *Cyclopedia of English Literature*. These would furnish the skeleton with something of anecdote to enliven. Miss Abby S. Richardson's "Stories from Old English Poetry," would help not a little. Dana's *Household Book of Poetry*, or Bryant's similar collections, or Kendricks' *My Favorite Poets*, with Shaw's *Choice Specimens*, or Cleveland's *Compendium*, would furnish selections. Not many dollars would give a very fair "stock in trade." Of course, many other books might be made very useful for reference, material and selection. A good shelfful of books would hurt neither teacher nor school. The mechanic

must have means to sharpen his tools; the lawyer, reports to collect authorities; teachers need appliances, too.

Second. "This literature matter—all about books and men or women died and gone, is not practical."

Yes; it will not raise turnips or fatten steers, sell calico or shave notes; it will not directly win cases in court or save cases in sick rooms. Indirectly, however, in some of the more common walks of life, this work is practical, even in the lowest sense of that term. Very much often depends not only on what we say, but how we say it. Here culture is useful, and familiarity with the thoughts and words of the gifted great becomes practically valuable.

"Practical," however, has a higher sense, and refers somewhat to influence and happiness in life. For these general ends, the culture of literary taste is invaluable. To speak clearly, pointedly and elegantly, to illustrate pertinently and beautifully, to use the right words in the right way, *tell* on those around us. Culture is the means of obtaining the power to do this; perhaps only in this way can it be secured by any save those gifted with genius or extraordinary expressive power.

For happiness, the highest and purest, inferior only to the heart-bleeding of clustering earthly friendship and affection, and the soul blessing of God's forgiveness and favor, stands the ingathering throng of thoughts and fancies from the wide realm of letters. Thrice blessed he whose soul aspires purely to God, whose heart may dwell fondly on a loved circle at the hearthstone, and whose mind is stored with the richness of the thought and the sweetness of the music in our English prose and verse. Why should this blessing be granted only to the few?

With this matter, however, as with introducing the simpler notions of Natural Science and even securing thoroughness in ordinary branches, the difficulty lies in the indifference, the unfamiliarity with the subject and the unwillingness to labor, too generally found in our common school teachers.

They must come more generally to feel their responsibility, to appreciate their calling, to devote a willing toil to their work, to insist on preparation before we can do very much to elevate or widen the work of our common schools. What has been said may seem chimerical, but "many a mickle makes a muckle" and may be this essay, intended to suggest possibilities not hard of achievement, will help the good cause.

Evil is wrought by want of thought,
As well as by want of heart.

A NOBLE STORY.

THE *Christian Union*, of a late date, says:

A noble story has been telling itself of late, in the hearing of the whole world. It is a story which narrates the formation of still another bond of friendliness and mutual help between the two sovereign realms of Commerce and of Science. Let us try to tell the story just as the story has told itself.

Early last month, at Professor Agassiz's Museum of Comparative Anatomy, at Cambridge, there were one day the buzz of strange voices and the trampling of unusual feet. The members of the Massachusetts Legislature had come over to see and hear the wonderful man who toils there, and who was himself the gracious host of the hour. In the course of his address to them, the great scholar of nature, in his own kindling, unselfish and high-minded way, told the assembled legislators of a plan he had conceived for bettering the quality of the teaching given throughout the country in natural history. That teaching can be improved, he argued, only by improving the teachers; and the teachers can be improved in the most effectual manner only by being themselves taught. But how can this be done? There is but one way. It is to catch the teachers and to teach them, when they themselves are free from the task of teaching—to wit, in the summer months. Hence had grown up in his mind, as a measure freighted with immediate and most practical good to popular education in America, the scheme of a summer school for the instruction of school teachers in natural history; and this scheme he meant to carry out, this very year, by holding the first session of the school at Nantucket. To be sure, his health was very infirm; he was already loaded down with labor; there was no endowment provided for such a school; yet by borrowing apparatus from a few colleges, and by begging the personal services of a few scientific friends, he hoped to do something to realize this grand scheme. And so the legislators went back to their State House, and Agassiz went back to his laboratory; and the big talk was over. That was the end of it.

No, that was not the end of it! It would have been the end of it, doubtless, but for one thing. That one thing, so to speak, was a woman, who, it chanced, was present at the interview. Just how this representative of our lovely but non-logical, non-combatant and non-voting fellow-citizens, contrived to be in such high company, we are not informed. But there she was. And, being there, she heard all that Agassiz said, and all that the legislators did not say; and what she heard she at once told in a brilliant letter to the *Tribune*, for March 12. The important consequences of this incident form the next chapter in our story.

That morning Mr. John Anderson, the great tobacco manufacturer of New York, opening his *Tribune*, was attracted to the letter of "L. C. M.;" and having read it, he immediately commissioned two gentlemen to go to Cambridge and tender to Agassiz a gift of Penikese Island, in Buzzard's Bay, as a permanent location for the Summer School; and, shortly after, added the gift of \$50,000 as the nucleus of a permanent endowment. The island, which is thus to be set apart for this unique and noble use, is one of the Elizabeth group of islands, contains about 100 acres,

and possesses advantages which peculiarly adapt it to the purposes contemplated by Agassiz. Its situation in the ocean, within easy access of the mainland, secures privacy and freedom from intrusion, while its wonderful fertility will enable the institution to maintain itself almost within its own domain. Mr. Anderson, since his purchase of the island some years ago, has expended large sums in buildings and improvements, and the commercial value of the whole property may be considered as little short of \$100,000. His endowment, therefore, is equivalent to \$150,000.

In what spirit the great scientist received Mr. Anderson's communication, we are not left to imagine. "I am overwhelmed by your generosity. Such a gift opens visions before me such as I had never dared to indulge in connection with this plan. You do not know what it is suddenly and unexpectedly to find a friend at your side full of sympathy, and offering substantial support to a scheme which you have been trying to carry out under difficulties and with very scanty means. I feel very grateful to you for making the road so easy, and I believe you will have the permanent gratitude of scientific men here and elsewhere, for I have the utmost confidence that this Summer School will give valuable opportunities for original investigations as well as instruction."

And this is the story which we wanted to put on record in these columns. It is just what we called it—a noble story. It does one good to hear it and to tell it. With such men among us as Henry W. Sage, John Anderson, McGraw, Sibley, Cornell, Peter Cooper, Peabody, Lenox, Williston, Sheffield, Vassar, Rose, Hopkins of Baltimore, and a noble host of others, who do not keep their money till they die, but who give it while they are alive to superintend its application, we cannot doubt the perpetuation in this land of our royal line of merchant princes. And since princeliness always recognizes its own kind, though in other spheres, we may be sure that the princes of commerce, who give their time to making money, will always have special homage and help for those princes of science who, in their utter consecration to a different vocation, declare that they "cannot afford to waste any time in money-making." Moreover, let it not be overlooked, that in this new and generous treaty between commerce and science, it is journalism which must be honored as the fortunate mover of the negotiation—and journalism, too, using the ballotless hand of a woman!

WE lay the foundation for usefulness to the State on the part of our people, in the public schools. The State at this point gives that for which it has a right to ask an equivalent. The State by maintaining a system of public instruction, furnishes the means, not only for an intelligent citizenship, but it gives protection in the use of these means at the same time. For this it asks fidelity and allegiance; and the citizen in giving this to the State gives safety and prosperity not only to himself but to the whole people.

AFTER all, what we make out of life depends upon how we communicate with life.



THE UNIVERSITY OF NEBRASKA.

THE organization of the University of Nebraska was made by the Legislature of the State February 15, 1869, and the University was opened to students September 7th, 1871. The Act contemplates the ultimate organization of six Colleges, as follows:

1. A College of Literature, Science and Arts.
2. An Agricultural College.
3. A College of Law.
4. A College of Medicine.
5. A College of Mechanics and Civil Engineering.
6. A College of Fine Arts.

The first and second of these Colleges are now in successful operation, offering an absolutely free education to every person in the State.

The above cut presents the front elevation of the building. It is three stories high, besides the basement and Mansard roof, built of brick, with the capings and corners of brown stone, and contains thirty-five recitation and lecture rooms, besides a chapel seating from four to five hundred persons.

ENDOWMENT.

Its department of Literature, Science and Arts is endowed with 44,800 acres of land, located in Nebraska, and the Agricultural College is endowed with 90,000 acres, all which are yet unsold, and from whose sale, with other expected funds, an ample endowment will be realized. The 480 acres near the University, gives the department of Agriculture ample lands for its experimental farm.

APPARATUS, ETC.

The institution is supplied with new and extensive apparatus in Chemistry and Physics. Thus instruction in practical and analytical chemistry, also illustrative experiments in physics, are abundantly furnished to the student. The cabinet, now quite large, will soon be enriched by the addition of about ten thousand more specimens. The library of carefully selected books is increased every year by an appropriation from the Board of Regents. With this is connected a well-furnished reading room, supplied with current literature.

AIMS OF THE UNIVERSITY.

The University, originating from a Legislative Act, and controlled by a Board of Regents elected by the Legislature, is made thereby a part of the educational system of the State. It aims to be the crowning glory of the State system of free public instruction, by affording opportunity to all, male and female, without charge for tuition, to obtain the most liberal culture in literature and art, and in such technical courses as may from time to time be established.

An able and experienced faculty give instruction in the various departments, and no reasonable pains will be spared to give that efficiency to the University which its position and aims demand.

Information with respect to courses of study, expenses, etc., can be obtained by communicating with A. R. Benton, LL.D., Chancellor of the University, at Lincoln, Nebraska.

SUPERINTENDENT MONTEITH'S REPORT.

THE Seventh Annual Report of the Superintendent of Public Schools of the State of Missouri, is in most respects a great improvement upon its predecessors. Mere tables of statistics without a rational commentary showing the wherefore, the whence, and the whither of the same, are not much better than rubbish. School reports should contain digested results. They should be so written as to throw light on educational problems. Who, indeed, has the opportunity for observation that the Superintendent has? He stands at the point where the converging lines of theory and practice cross each other. His work is a work of mediation. He is necessarily obliged to participate in all the collisions that arise from the development of antagonistic forces within the educational field. The opposing struggles of one theory against another, the contest of practical schemes for preference, take place under his eye, and he sees the real solution. Hence it is important that each yearly report of a school system be written so as to exhibit the bearing which the statistical facts have on the growth of the system, the methods of management, and the future policy of the directory.

The report before us shows an enumeration of 636,524 children of school age (5 to 21 years of age), the same being an increase of 39,050 over the previous year. The number attending school increased 59,886 during the same year, making a total of 389,956 attending school in 1872. The number of teachers employed was 8,862. The total amount disbursed for school purposes was \$1,904,997, of which sum \$584,040 was expended on buildings, etc.

"The most effectual labor of the Superintendent, in the present condition of our progress, is accomplished by direct contact with people at teachers' institutes and popular conventions and in general public addresses." In accordance with this view, Superintendent Monteith has held a number of Congressional District Conventions, and the account of these occupy a large portion of the report. We are thus enabled to see the reflection of popular opinion and the topics of special interest among the educators of the State. This is a better index than the annual letters from local school officers, which occupy about seventy pages of the book.

According to Commissioner Eaton's Report Missouri ranks the twenty-seventh in the amount per capita expended for educational purposes, being in this respect behind Arkansas,

Mississippi and Delaware. While Nevada expends \$19.17 per capita for education, Missouri expends only \$2.65. Indeed our neighbors outrank us in the following style: Illinois expends \$7.97; Iowa, \$7.10; Kansas, \$6.45; Arkansas, \$3.53. On every side of us—north, south, east and west—people are investing from fifty per cent. to three hundred per cent. more per capita for education. And yet Missouri of all these States needs educated labor—directive intelligence—in order to utilize her prodigious natural resources. It is clear from this that now is not the time for retrenchment in education, and that our last Legislature acted wisely in establishing a new Normal School (among the mining districts of the southeast) and in endowing by larger appropriations those already established.

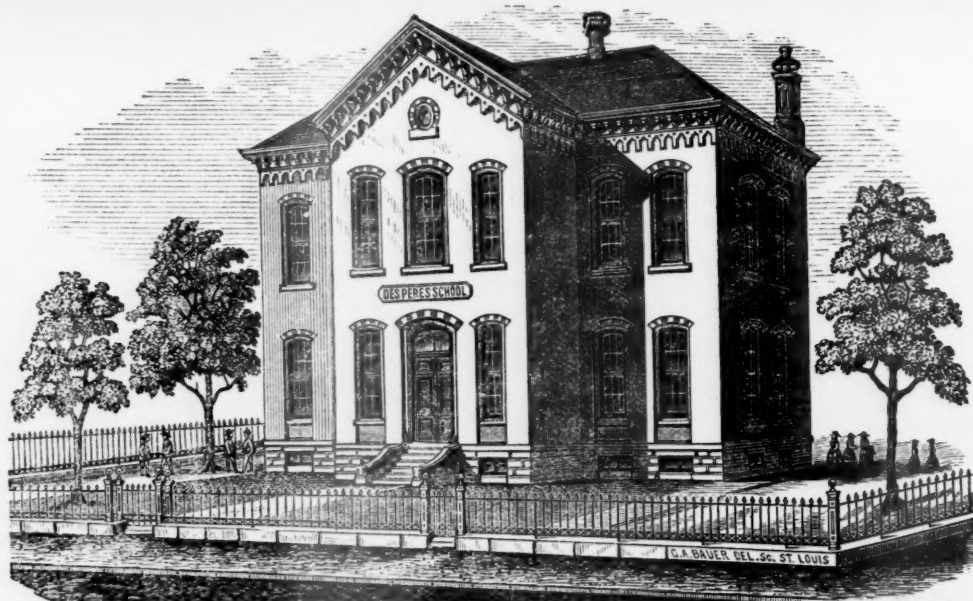
One of the best of the many excellent exhibits of Superintendent Monteith is that under the heading "Crime and Schools," wherein he shows a kind of inverse ratio existing in the county expenditures for schools and criminal costs. In many of the counties the cost of criminal prosecutions makes a larger draft upon the State treasury than the school fund apportioned to them, in some cases three times the amount.

Under the head of Moral Education Mr. Monteith discusses the subjects of defective government, bad air, whipping in school, when and how the rod should be used, self-accusation, discipline without knowledge, school wrangling, child-mannhood to be respected, useless rules, knowledge and morals, morals not theology, morals distinguished from religion, the school and the catechism.

The importance of drawing, in Public Schools, is recognized by the inclusion of an essay on the subject by Miss Emma Dickerman of Warrensburg. In this direction also Supt. Monteith recommends that the study of natural science be introduced into the district schools somewhat in the same style as in Illinois.

If space allowed us we would make extracts from the pertinent and pithy discussions with which the report is filled, and also glance at the condition of the Normal Schools, the Lincoln Institute, the Deaf and Dumb Asylum, the Institution for the Blind, the State University, the School of Mines—all of which are reported at length in this document.

In conclusion we congratulate Superintendent Monteith on having made one of the most valuable and instructive school reports that has come to our notice.

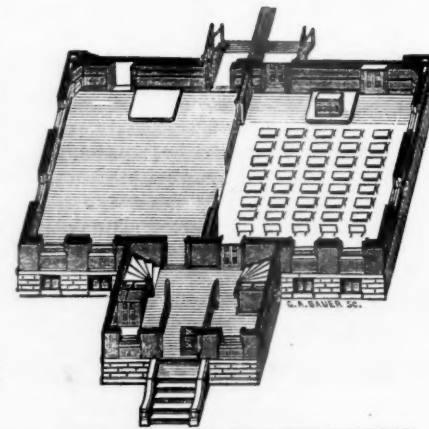
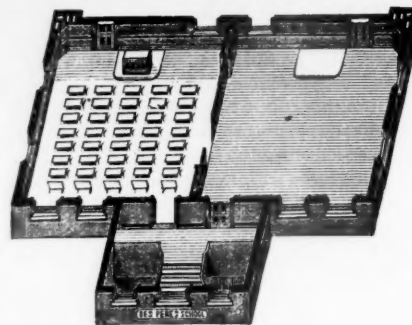


DES PERES SCHOOL HOUSE.

THE accompanying cuts are representations of a four-room building called the Des Peres School House, erected by the Board of St. Louis Public Schools, in Carondelet. The building is located on a lot of 145 feet frontage and of 154 feet depth. The central part projects boldly, to give room for a double flight of stairs, arranged symmetrically, and, at the same time, to serve as vestibule, hall or lobby, as well on first as on the second floor. Main rectangle of the house embraces on each floor two adjoining rooms, separated by large sliding doors, which enables a joining of the two classes in exercises common to both. Seats for sixty-four pupils will be placed in each room, leaving a liberal amount of space for aisles between and around rows of seats. Its exterior is pleasing and impressive, and its construction, though simple, is most complete and substantial. Its first floor is reached after ascending over stone steps between heavy stone buttresses to a height of four feet above the ground line. The height of stories in the clear is fifteen feet. The masonry, from ground to height of first floor, is faced with rusticated rangework. The walls are of the best brickwork, and respectively two bricks and one and one-half brick thick in first and second stories. Roof is slated, and a thorough system of ventilation as well as drainage of the premises is provided for.

The cost of building, including fences and all improvements made on the premises, is \$13,700.00.

The building was designed by, and erected under the supervision of, F. W. Raeder, the Architect of the Board of St. Louis Public Schools.



OUR TEACHERS' BUREAU.

Those desiring teachers are requested to state—

- 1st, Salary paid per month;
- 2d, Length of school term;
- 3d, Qualifications required.

Teachers desiring positions will also state—

- 1st, Their age;
- 2d, How much experience they have had in teaching;
- 3d, What wages they expect per month.

We charge each applicant for a position, and each person applying for a teacher, the sum of *two dollars in advance*, for inserting their application,

TEACHERS WANTING SITUATIONS.

226. A lady who speaks French

and German is desirous of meeting a family going to Europe, with whom she would act as traveling companion or Teacher of the above languages.

227. A young gentleman with some experience desires a position as teacher of the English branches and German, salary \$75 per month.

228. A lady with thirteen years experience as principal of a good school; can teach English branches and music. Salary \$50 per month, free of all expenses.

229. An experienced Botanist wishes a position in an Agricultural College; would combine Natural Philosophy, Mathematics and Latin.

230. Two Southern ladies desire positions in a good school; one is a fine musician and superior vocalist,

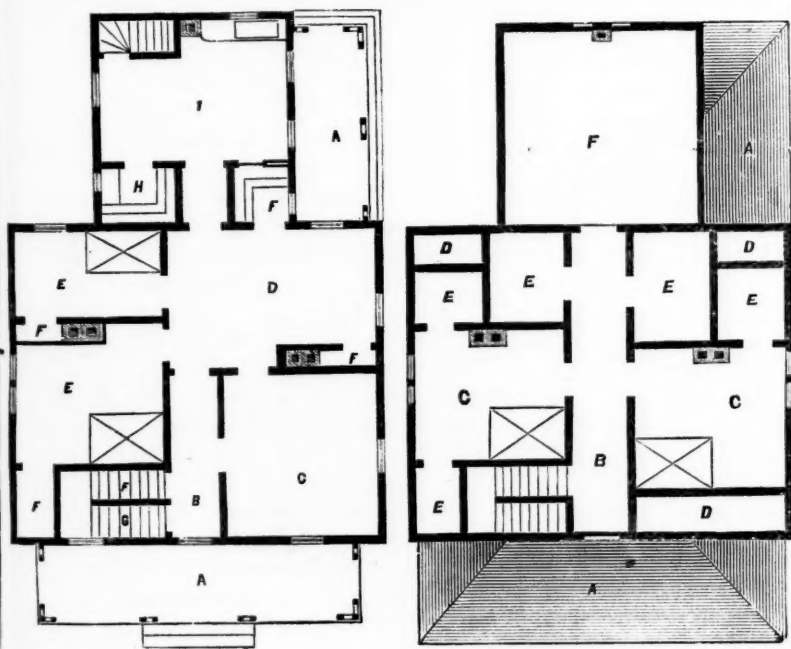
the other can teach higher English branches and mathematics. Good references; prefer being together.

PROBLEM.

For the AMERICAN JOURNAL OF EDUCATION.

A. AND B. are traveling towards St. Louis by the same road, and at the same rate, A. being ahead. 50 miles from St. Louis A. overtakes and passes a flock of geese, moving at the rate of $1\frac{1}{2}$ miles per hour, and 2 hours afterwards he meets C. coming from St. Louis at the rate of $2\frac{1}{2}$ miles per hour. B. overtakes and passes the geese when 45 miles from St. Louis, and 40 minutes after meeting C., he arrives at a mile-post which says, "31 miles to St. Louis."

At what rate do A. and B. travel, and what is their distance apart?



BEAUTIFUL HOMES.

WE respond to the numerous calls upon us for the cut of this cheap but beautiful "Cottage Home." It adds materially to the pleasant impression given to those passing through our thriving towns and cities in the West, to see taste displayed in the erection of school-houses, churches and dwellings. It costs less to make these buildings beautiful and convenient than to pile up unsightly boxes of brick and lumber.

Members of our school boards, even in our larger cities where the best style of school buildings have been erected for years, never think of building a four room school-house without the services of some good architect to draw the plans and supervise the construction of the house, and they find they save money by so doing.

We think our friends who are building new school-houses, churches and dwelling houses, would save money, secure better work, and more convenient and substantial buildings, by consulting some honest, competent architect.

LETTER TO THE YOUNG FOLKS ABOUT RAILROADS.

BY UNCLE NED.

My Dear Young Friends:

IT is some time since I have spoken to you, and I am now so far away that I would have to speak pretty loud if I were to make all of you hear me. I am more than a thousand miles from the office of publication of the Journal, but I find numerous copies of it away here, near the old Atlantic Ocean, that shakes his hoary mane against the firm land, both winter and summer. I could talk to you by the hour of things and folks that I have seen on my trip, but I will take only one subject at a time, and that shall be the Railroad. "A pretty big theme," you will say, and I think so too, for one letter.

I suppose some of the farmers in our Valley of the Mississippi think rather hard of Railroads in general, but, with all their shortcomings, they brought me all the way to Boston. I thank them for bringing me safely, too. I just saw a picture of the first cars that ran on a steam-train in this country. In 1826 a charter was granted to the Mohawk and Hudson Railroad Co. for a road to run from Albany, New York, to Schenectady, sixteen miles. The land was given to the company, or sold very cheap, and the track was laid in the streets, and went both up and down hills, and through the largest towns. At the tops of the hills were stationary engines to draw up the trains with ropes. Horses were used also on this road as well as locomotives. The first passenger excursion train was run on this road in 1831, and the engine, named John Bull, was brought from England, and weighed four tons. I think that now, some engines weigh ten times as much. On this first trip, there were two coaches and fifteen passengers. Now one coach will hold fifty or sixty. Those primitive coaches were much like our stage-coaches, and would hold no more passengers than they. They ran very slow, and the brakemen used levers to stop the wheels with. I suppose those fifteen passengers thought it was a very grand thing to ride like that, before you and I were born; and perhaps they thought there would be no more progress in modes of travel! Let us see. Look on that picture, then on this which follows.

I suppose ten miles an hour would have been good time in those days. Now, we hear of speed at the rate of a mile a minute on the cars. John, how many miles is that per hour? At first, a little snow, only an inch deep, would block a train, and men would stand on the engine in front,

with a broom to brush it off, holding a bucket of sand to sprinkle the track, so as to keep the single pair of driving wheels from slipping. Now, snow banks several feet in depth are plowed through as easily as you would blow away a feather of down. Then, the rail was a strip of flat iron like tire, nailed on sleepers, and these strips would sometimes turn up and thrust themselves through the cars to the danger of life. Now, the T rail in use is very heavy and solid, as you know. The engine of four tons in those days found it hard to draw one or two cars; now, a good engine will draw a hundred.

I spoke of the hand-brakes of the former days. But one of the greatest modern improvements is the air brake now in use on the principal lines of travel. By its use a heavy train, running forty miles an hour, can be checked in a few feet, while there is no need of brakemen. What a guard against danger! Already, lives have been saved by this wonderful invention. The air-brake depends on the principle of the expansion of compressed air. The air is forced into a reservoir near the engine by a steam pump on the locomotive; thence a pipe runs back, flexible between the cars, connecting with cylinders with pistons under each car. These pistons connect with the brakes in such a manner that when the engineer of the train wishes to stop it, he lets the air from the reservoir into the pipes or tubes, and each piston, from the great pressure thrusts the brakes on to the wheels. Thus the swiftest train may be stopped so suddenly as to lift you from your seat in the car.

I just saw a boys' railroad, it was made by boys: brothers they were. It was not more than forty rods long, but very amusing. The track was narrow, and of wood, and ran around the garden so as to be down hill all the way. First there were the ties of pieces three inches by two, then string pieces nailed down; then wooden strips an inch square nailed upon the edge of the sleepers, answering for rails. The starting place was elevated three or four feet so as to give a good start to the car, for there was no locomotive. The car was a box, with small iron wheels having a flange. A chair was fastened in this box, and I mounted it. When all was ready they let go, and away I went around the curves to the end of the line! That was a mimic railroad, and a pretty good thing for the boys. I suppose this road has paid the company pretty good dividends in fun, and what is better, health. It does not pay much money to the stock-holders; but you know, money is not the best thing in the world! I will give you the names of the company who run this road; they happen to be brothers, though I think their sisters are interested. The names are William, Henry, Charles, John, James and David.

AMERICAN Journal of Education.

J. B. MERWIN.....Editor

SAINT LOUIS, MAY, 1873.

OUR CIRCULATION.

Office of THE R. P. STUDLEY CO.,
Manufacturing Stationers,
S. W. Cor. Main and Olive Streets,
St. Louis, March 20th, 1873.

J. B. MERWIN, Editor and Publisher
American Journal of Education

MY DEAR SIR:

In reply to yours, of late date, I have to say that our books show that for several of the last issues of the AMERICAN JOURNAL OF EDUCATION, we have printed, and you have paid for, an edition of

TWELVE THOUSAND COPIES, a fact as gratifying to us as it must be pleasing to you and your friends. We have printed this journal from the first, and it has gained steadily in circulation from three thousand copies to TWELVE THOUSAND each issue.

Respectfully,

THE R. P. STUDLEY CO.

EDUCATION IS ECONOMY.

ANY one who, as a director of work, is obliged to come in contact with the laboring class, may be quite sure that he will at times be aggravated to the extremest degree by their incapacity, except so far as regards the merest mechanical work. It is quite true that, as far as that class is concerned, America occupies a position different from that of any other country. As a writer in the *Nation* very truly observes, We are the only nation on the face of the earth that does not raise its own servants. It is the rarest exception when we find an American employed in any service which can be called menial. Foreigners lay our railroads, dig our cellars, build our houses, sweep our streets, care for our domestic animals, wait on our tables and drive our carriages. Foreign servants cook our dinners, sweep our rooms, make our clothes and care for our children. In no other country of the world is this true. The universal air of aspiration which breathes over America, gives every American a distaste for such employments, and a belief in his own power of doing something better. But this very air of aspiration in a short time so infects the foreign population which land upon our hospitable shores, that they too aspire unceasingly to do some work greater and higher than they have ever before attempted. The result is an amount of incompetency in all the lower situations, which renders life a burden to those who attempt to direct, and which results in waste of material and time in all artments, disheartening to con-

template. House-keepers search in vain for competent and trustworthy servants, corporations for employees that they can rely upon, merchants for salesmen and porters who are honest and not always making more trouble than they save.

This is the actual state of affairs at present. But any one who will take the trouble carefully to consider the source of all these annoyances, will soon find that all inquiries end at the same answer, and that is, want of intelligence, want of education. It is want of educated intelligence which leads one to abandon a work of which he is capable, to seek one for which he is entirely incompetent; it is through a want of educated intelligence that our clearest directions are not followed, that our materials are wasted, that our time is lost, that our machinery explodes and destroys life, that our investments in manufacturing do not pay, that our employees are restless, quarrelsome, destroying not only their own peace but ours. And yet we find men and women who, being owners of capital, suffer daily from this want of educated intelligence, apathetic on the subject of popular education, and perhaps grudgingly paying their taxes for the support of the common schools.

It may be that the present adult population of immigrants are beyond help, though even they will be somewhat elevated and improved by the influence of intelligent and trained children; but for the younger class it is not too late. Let them be well educated, not only intellectually, but morally. Let them be trained as far as possible in intelligence, and let them be indoctrinated in our large public schools with the cardinal virtues of punctuality, regularity, order, temperance and obedience to authority, and the future may yet hold some light of hope. For every dollar spent in the education of the laboring classes we shall receive back a hundred fold, for the interest on such investments know the limitations of no usury laws. When shall we have the lesson?

IMPROVE YOUR TEACHERS.

YIELDING to the force of circumstances, men are sometimes driven per force into channels of thought which bring to the lucky adventurer rich harvests of mind culture, and greatly increased practical power. To know is not always a guarantee of ability to do. To know is well enough: ability to do is better. Practical power is often a natural gift, and often the legitimate fruit of well-directed and assiduous effort.

No branch of our industrial economy more greatly needs a strong

infusion of this same practical power than that which is known as our public school service. Results, rather than the magnitude of our efforts, fix the value of every enterprise.

We hear on every hand that our teachers need better pay. Let them show by their works that they deserve better pay. For ourselves we firmly believe they now deserve it. In a few instances, no doubt, they are paid more than their services are worth. This fact has a reflex influence on our good teachers, by reason of a well-known tendency in human judgment to charge upon a whole profession the foibles and weaknesses of a few unworthy members of it.

Better pay is sure to come to every really worthy teacher. But one thing is quite sure: no teacher who is satisfied with his present attainments, or whose attainments are limited to a knowledge of the few text-books found in our schools, has reason to hope. Teachers need to know well the subjects they are to teach. They need to know much beyond this.

An old Spanish proverb runs thus: Those who know books may know how things *ought* to be; but those alone who know men, know how things are.

With things as they are we have to deal. Practical power is the element that moves the world.

TOO MUCH MONEY IN IT.

WE are fast coming to recognize but one fixed standard of values. The spirit of the age compels us to refer every secular merit, almost every virtue, to some commercial test; to reduce not only every practice, but every theory, to a money basis. A superficial view must lead us to regard this as a sordid tendency. But since the tendency is clear and seemingly inevitable, we are left no choice but that of scrutinizing the elements which come before us as evidencing whatever claim to merit any subject under consideration may have.

A thoroughly liberal view, however, as certainly strips this tendency of most, if not all, of its obnoxious features.

Education has hitherto been classed with those subjects held in high esteem for their ethical qualities alone. Now, we find it reduced to the rigid test of utility and cost.

We propose to consider only one phase of this question, the question of county supervision. The universal cry is, our taxes are consuming the surplus products of our industry. Among the most burdensome of these taxes are those levied for the purpose of educating our children. Naturally enough the cost of production is an

important element in the discussion of this question. County supervision is thought a large item in this element of cost.

Right here the enemies of education (and often those whom we will not class as enemies, but who nevertheless can never understand how the truest economy often compels a liberal expenditure of money) find ample scope for empty declamation, for reckless and gratuitous assumption. We need not argue at length that no department of our organized industries ever fails to see the greatest economy in the greatly increased productiveness of labor under the control of competent supervision.

School supervision is no exceptional case. The law is universal. The nearest approach to an exception is the limit of its application in any particular instance in practice.

Two inquiries here present themselves: First. What does county supervision in the State of Missouri, for example, cost? Second. What are the benefits to the system, justly attributable to this supervision?

One of these inquiries is all we can discuss in the present number of the *Journal*, and since cost and production are largely interwoven, we can hardly enter upon a full consideration of the one without anticipating, to some extent, certain facts and arguments belonging, under a strict classification, more properly to a consideration of the other.

The naked facts, then, in this element of cost, are these: A superintendent in each of the one hundred and fourteen counties of the State, imposes an aggregate expense of \$45,600 for salaries. This gives each man a yearly salary of \$400! The individual salaries average this amount. A few get more than this; many get less. Now, without any regard to the ultimate productiveness of this labor, the laborers cannot be thought to be extravagantly paid. True, if this outlay results in no benefit to the system, it may, at first thought, be regarded as a useless expenditure of the public money. We are very willing to admit that, up to a certain limit, a given expenditure often results in no appreciable good. It is, however, far from safe to infer that every outlay in this direction is profitless.

A certain amount of force is always necessary to overcome (in every body and in every enterprise) the natural tendency to rest. If we stop at this point our efforts seem thrown away. A further outlay of effort or of money retrieves the loss up to this point, and gives us the net product of our endeavor or of our outlay.

Granting, then, for the sake of argument, that the county superin-

tendency, as at present paid, is an office of questionable advantage, let us see what better pay would do for our school system in this direction.

If we were to double the salaries now paid our superintendents, the entire cost of this branch of our school system would reach about \$100,000. Distributing this with proper regard to the extent and labor of supervision in different counties, individual salaries will range from \$750 to \$1,500.

These are living, if not remunerative salaries, and must secure more competent men for this office. The stimulus of honorable reward must result in more vigorous and better directed effort.

Make the superintendent a bonded officer; give him the custody of, and make him responsible for the honest and proper distribution of the school funds in the several counties. The cost per annum for such supervision will, as indicated above, reach about \$100,000 yearly, or \$10,000,000 in one whole century.

Now, the Report of the State Board of Education, for 1871, states that our school fund, which is now less than \$4,000,000, would now reach \$14,000,000, had the school money not been squandered and stolen; thus showing an aggregate loss sufficient to support our one hundred and fourteen superintendents, on double their present pay, for one hundred years.

The net gains to our State would thus appear in the greatly improved condition of our schools under this more efficient county supervision.

Nothing but a judgment blinded either by avarice or personal ambition can either advocate or be indifferent to any legislation looking to the abolition of the office of county superintendent.

A NEW PREMIUM.

FOR a club of twelve subscribers, cash in advance, we will send a full and complete set of Prang's Natural History Series for Schools and Families.

The animals and plants are represented in their NATURAL COLORS, and arranged so they can be used at home or in the schools for instruction as Object Lessons.

These pictures are beautiful as works of art for either the home or the school, and tens of thousands of children will rise up and bless Prof. N. A. Calkins for his work. Get up a club and get the pictures.

EVERY good brings its pleasures to the mind of him who performs it. This is the law of moral and social life. Why then should we not study our happiness in being just and good?

MORE CAREFUL WORK.

THE characteristic element of modern science is the quantitative element. We want careful work everywhere; we want analysis; we want measurement; we want exact comparison; we want the universal recognition of the absolute value of the truth, and the relative worthlessness of anything short of it. We want the courage and devotion that perseveres in the dark, having an abiding faith that afterwards there shall be light. You remember how corals grow. The reef is not a building constructed by them; it is their own life that crystallizes within them, and it is left behind them as they climb upward toward the light. And as they climb, the seabottom sinks beneath them, and the surface, only a short distance below which they can live, seems doubtless unattainable to their patient labors. Yet by-and-by it is gained, though the coral-makers die in reaching it, and over the records of their ceaseless toil appear at length the verdant fields and fruitful palms of islands that lie like gems upon the bosom of the sea.

So must we labor, climbing ever through the dim sea toward the blue sky and the perfect day, leaving our lives behind us as we climb. The great ocean of human thought grows deeper underneath as we ascend; we get further from the bottom, yet not nearer to the top. When we reach the unclouded sunlight, it will be to die. Yet in some bright hour of the ages to come, generations of men illuminated with knowledge and clad in peaceful strength, shall look curiously and reverently upon the foundation of their prosperity, examining the progress of our labors as we study the lives and labors of the coral-makers, and shall say, "Without the patience and devotion of these workers, our fair, new world would not have come to be!"

WASHINGTON UNIVERSITY

IS about closing another year of successful work. Steadily, in some respects slowly, but surely, this young but firmly established institution is pressing on in the fulfillment of its mission. In St. Louis, where people know what good schools and good teachers are, it is safe to judge an educational institution which is strictly non-sectarian on all religious matters, welcoming in its broad catholicity Jew, Roman and Protestant of every denomination—we say it is safe in this city to judge such an institution by its popularity. By this standard we find convincing proof of success. The University catalogue recently issued gives a total of *seven hundred and fifty-one* pupils. This

is certainly a brave army to do battle in behalf of that education which is to redeem the world. Said one of our ablest ministers not a week since, "It is not philanthropy which is to redeem the world, it is education." Education, intellectual, moral and physical; education which involves a knowledge of the physical world as it is, and not as it has been falsely supposed to be, and which includes a more rational view of our relation to this material world.

Washington University is enlisted in this cause

"From turret to foundation stone,"

we believe it does honest, faithful work. We do not propose to speak further of the more elementary departments, male and female; they are full to overflowing, and well deserve their success. The ratio of the number of teachers to the number of Scholars is unusually large, thus securing the possibility of greater attention to individual tastes and peculiarities. We wish, however, to speak briefly of the higher departments, and of the local demand for

HIGHER EDUCATION.

Progress in these departments is slower. The main reasons for this are three-fold.

1. The older colleges and schools of the East, which have done so much for us, naturally stand first in our affection and confidence, and we send our sons to tread the halls their fathers trod. We shall not quarrel with this practice, though we suspect that it often involves a *double* mistake.

2. The demand for higher education is yet small throughout the Western, compared with the Eastern and Middle states. The half million people of Boston and vicinity send to colleges and scientific schools five times as many young men and women as all Missouri with its millions of inhabitants. This state of things, we gladly believe, is fast changing for the better. The great Public is beginning to insist that the civilization of the future shall be a higher civilization, and that those who are to shape and control it shall be well educated, well informed, well trained.

3. The high standards of scholarship which the University has adopted, and to which it loyally adheres. Eventually this, which is now a reason for small classes, must be the reason for large ones. Thorough training and breadth of culture are their own recommendation, and no community will consent to be long without that which has been proved to be both valuable and accessible.

We should perhaps add a fourth reason, closely allied to this last, why a comparatively small number of students seek in this University a higher education, and that is the

fact that, outside of St. Louis, there are not a large number of schools in the state which can properly prepare students to enter these departments. This evil, however, is rapidly disappearing. The interest everywhere shown in the improvement of the High, or "Central" schools, gives promise of large accessions to the classes of Washington University from the state at large.

But we do not wish to be misunderstood. These departments are by no means so very small when properly considered. A college of thirty, and an engineering school of forty students, means a good deal when it is understood that the youngest class averages eighteen years of age, and that all are actually engaged on higher, general or professional work.

We are glad to know that the prospects for next year are unusually good. New advantages for those who come, and new means for helping those who otherwise could not come at all, are being provided. We have seen a good deal, and heard much, of the Polytechnic department. We have visited its chemical, physical and metallurgical laboratories; its machine shop, printing office, &c.; and we know something of the "Field Work" done under the professors of Civil Engineering, and of Mining and Metallurgy, and we do not hesitate to say that we believe totally in the sort of education which, whenever it is possible, supplements the soundest theories by actual practice. But we have said enough at least to show our good will, and to make it clear to those anxious to secure a liberal classic or scientific education where it can be obtained.

We send "Sypher's Art of Teaching School," which tells you just how to establish schools; how to organize schools; how to teach school; what to teach and the best way to teach, for four subscribers to the *American Journal of Education*. It is an easy way to secure the book. Try it.

In proportion as science and reasoning simplify production, the quantity of benefits produced tends to increase without augmentation of expense; work done helps the work to be done. The tools of the human race are nothing else than a collection of ideas. All levers are worn out in the long run, and all wheelbarrows also; steam-engines are not everlasting, but the idea remains, and enables us indefinitely to replace the material which perishes. It follows from this that the first of useful things for man is man himself.

THE MONEY VALUE OF INTELLIGENCE.

EVERY thoughtful man recognizes the money value of intelligence in a community. It is for this, in part, that the State builds school houses and furnishes free education to the masses. "Knowledge *is* power;" even the ignorant respect it, and pay it many an involuntary compliment. The power consists in the ability to better one's condition more rapidly; and in doing that—such are the relations of men to each other—they usually benefit all around them. The improvements on a piece of real estate do not affect the owner alone, but indirectly extend to the neighborhood, and next find their way to the assessor's books and thus benefit the nation. It is like the ripple which a pebble starts when thrown into the water—it spreads wider and wider, and though after awhile the visible effect disappears, we know that it does affect the whole body, no matter how large. So when something is added to the world's wealth, it benefits the whole world, although we may not be able to trace its full effects.

When an enterprising man buys a downrun, neglected farm, with rickety and dilapidated buildings, and at once proceeds to improve it, clears up the unsightly fence corners, drains the wet land, pulls out stumps or rocks, moves the barn to the *back* of the house, and sets the new house a little distance back of the highway, lays out a lawn, with pleasant walks, and shade trees and hedges; brings blooded stock with him, and causes his acres to produce three fold more than ever before, what man so stupid as not to recognize that that is a pecuniary gain to the neighborhood? No matter how selfish the owner may be at heart, if he makes his farm more valuable, he does the same, to some extent, to all around him. The neighbors like to see a handsome farm near them even if they never think of selling, and when they do try to sell, the prospective buyer will invariably have his attention called to the handsome property over the way, or which adjoins, or at least is not far off. Speculators holding unimproved lands, like nothing so well as to be able to say (because nothing is more potent) that it lies in the very best of neighborhoods, is surrounded by rich farms in the highest state of culture, in a delightful region of walks and drives; that the people are all intelligent, and their tastes refined; that schools and churches abound; and that the value of the land has been proved by the extraordinary yield of crops on the adjacent farms. When these things can be said truthfully sales are comparatively easy, and that at the highest prices.

ILLITERACY IN THE UNITED STATES.

BY JOHN EATON, JR., UNITED STATES COMMISSIONER OF EDUCATION.

FOR purposes of generalization, we may say that all male citizens are now voters, and may hold office, give testimony in courts, and sit on juries. According to the census, there are in the several States 1,554,931 totally illiterate male adults. If we follow Mr. Mann's rule of adding one-half of those who report themselves able to read, but not sufficiently to understand common English, we have 1,073,241 practically illiterate.

The whole number of male adults in all the States cannot yet be precisely given, but enough is known of the proportion borne by the illiterate to the whole number of voters to be profoundly suggestive to those who believe that the intelligence and virtue of the people constitute the only security for the permanence of our institutions and the prosperity of the nation. It will be recollected that 300,000 is a large majority in any election of President. The determination of the election thus far is practically in the control of less than 300,000 votes. But this is less than one-sixth of the voters in the country who are illiterate. How often we are told that brain power or intelligence directs the multitude. A mass of ignorance is always a temptation to the designing and evil. They appeal to the passions and prejudices of the ignorant. The more intelligent and virtuous a people, the more they judge for themselves and the less are they subject to leadership.

Had we the total voting male population, as we shall have when the census is complete, it would enable us to inquire how large a share of the House of Representatives in Congress would be subject to an election by a non-reading constituency—what share of the State officers would be subject to control.

But the computations of the census already enable us to look at the facts in some of the States, and we will do it by obtaining the illiterate voting males to the whole number of voters in these States as the means we will use.

In Alabama this is fifty-three per cent. Therefore they have the power, by voting together, to elect more than half of the Legislature of the State, and over half the members of Congress.

And the same is true in Mississippi, where 51 per cent. of the voters are illiterate, and in Georgia and in Florida. In Kentucky 28 per cent. are illiterate; in Maryland 22, and Delaware 24. In these States the illiterates have one-fifth and more of

the voting power, jury power and witness power. Should these ignorant voters in these cases determine to elect only persons as ignorant as themselves as legislators, judges, governors of State, or members of Congress, what evils could not be conjectured as possible? Verily we have reason as Americans to be profoundly thankful that we have passed so far these possible evils, while so few of them have become actual; but we should improve the years of their delay or absence to make ourselves as a people, in every section of the country, absolutely secure against them, by making intelligence and virtue universal.

THE RELATION OF THE ADULT MALE ILLITERACY IN THE COUNTRY TO THE PRODUCTION OF WEALTH IN THE SEVERAL STATES.

Before proceeding to these inferences, we need to recall a most extensive inquiry which we made in the United States Bureau of Education into the opinions of the three classes of persons scattered over the country, viz.: working people, employers and observers, in regard to the relation of education to industry. We found them all agreeing that on the average the ability to read and write adds one-quarter to the productiveness of the rudest manual labor—that is, a man who cannot read and write would earn one dollar per day at the rudest manual labor, adding the ability to read and write would, on the average, enable him to do or earn one-fourth more, or \$1 25. If thus the 1,554,931 adult males, regarded by the census as illiterate, should add to their intelligence only sufficient to read and write, they would, according to these opinions, add annually to the productions of the country \$116,612,425, or nearly twice as much as is paid out annually for all the public school instruction in the United States; or in Alabama, \$8,133,450, or nearly sixteen times what is now paid for education in that State; or in Arkansas, \$2,796,925, or more than four times what is paid out for education; or in Florida, \$1,543,650, or more than forty times what is now paid for education, and nearly a thirtieth part of the present total wealth of the State; or in Connecticut, \$721,275, or little more than one-half of the present expenditure for education; or in Delaware, \$542,325, or nearly five times what is now expended for education; or in Massachusetts, \$2,380,650, or about two-thirds of the present expenditure for education; or in New Hampshire, \$254,925, or more than three-fourths of what is now expended for education.

Consider that the same opinions with regard to the relation of educa-

tion to industry agreed that an advance beyond reading and writing, which gave a man intelligence to do business by himself with facility, or to supervise the business of others, added from sixty-five to seventy-five per cent.—say, for convenience, seventy-five per cent.—and for the country it would add to the product of the illiterate adult males \$311,286,200, or nearly five times the total amount expended for education in the entire country.

We do not enter upon the consideration of the relation of education to the increase of invention among a people. The more general the intelligence of the people, as a rule, other things being equal, the greater will be the number of inventions, the more improvements will be made in machinery, in the various arts of living, in the means of shelter, in wearing apparel, in food, in the instruments of industry, in the kitchen, in the shop, in the farm and in the facilities of transportation. These results of the increase of intelligence at the present time are beyond our present means of computation.

The numerous and very valuable private efforts to bring to bear statistics for the quickening of different interests in the country, especially those of education, it is not my purpose here to describe. I can only notice, further, the efforts made in the various schools and offices of committees, directors, superintendents of cities, counties, States, and in the United States Bureau of Education, to work out these problems.

Great and effective as the summary of the experience of the country as presented in the census once in ten years may be, it was felt by our educators not to be sufficient. Their work must be done every year; it must have the certainty and constancy of the generations. As school officers, teachers and superintendents they need constantly the suggestions of the wisest experience.

FROEBEL'S KINDERGARTENS. ✓

MISS Elizabeth P. Peabody, of Cambridge, Mass., sends us a letter setting forth the objects of the Boston Kindergarten Association, from which we make the following extracts:

The art of kindergartening, or child culture, means the taking children from the mother in the twilight of their intellectual consciousness, and, in the spirit of the wise mother's method, cultivating them as living organisms, not drilling them as stones, or molding them as clay; but first teaching them to trust, to hope, and to love, by presenting to these natural instincts of their hearts their proper objects in the living persons of their parents, brothers, sisters, and other genial companions, with whom they may exchange all the sweet courtesies of life in their

childish plays; at the same time that their understandings are very gradually developed to know the nature and life to which they are born heirs. This last is done by giving them opportunity to act upon nature immediately around them; to produce effects within the compass of their childish fancy and affection, exercising their powers of sense, locomotion and manipulation upon playthings, given in such order, and so easy to use, that the knocking down and rearing up to which all children are prompted by the instinct of self-activity, in order to prove themselves powers, shall be replaced with little productions of their own, which shall react on themselves to produce attention and examination, and knowledge of order and law, as well as real pleasure, which is the best moral atmosphere for children; and which they, unconsciously, vainly seek for in the unguided, disorderly play of ignorance.

The kindergarten era stretches for three or four years between the nursery and the primary school time: admitting more formal discipline than the nursery, but less than is indispensable for the primary schools, for instruction in reading and elementary science. And it requires a peculiar class of teachers, who unite the tenderness of the mother with a philosophical insight into the nature of childhood, in that pre-intellectual era when irresponsibility is just beginning to yield to the growing moral sense. Its teachers must have made themselves adepts in Froebel's method of sharpening the five senses, and training the limbs, especially the hands, to artistic processes, with genial conversations that lead the children to think, invent, and especially to speak and understand their mother-tongue with precision and intelligence.

The Boston Kindergarten Association hopes to be able, in the course of the summer, to start a monthly periodical, to be edited by Miss E. P. Peabody, the first number of which will be sent to any school which will make known its wants to the Association.

This monthly will contain, among other things, Miss Peabody's lectures, delivered the past winter. The continuation of the publication, however, will depend upon the success of the subscription for it.

The letter is written in the interest of the Boston Kindergarten Association.

NEWSPAPERS AS A MEANS OF CULTURE.

IN a recent article in one of the very best of our magazines, "*Old and New*," Mr. J. P. Quincy says a true word and a good word for newspapers as a means of culture:

Doubt any one's good sense who speaks scornfully of newspapers. There is much in them that is trifling and, perhaps, demoralizing; but, in the best of them, how much that is wise and noble! I have a few choice volumes on my shelves, among them an Olivet Cicero and a folio Shakespeare; but I would save my newspaper scrap books before either of them. I have no volumes that contain so much sound thought, good English, good sense, and important knowledge. If you ask for wit, I will agree to match every jest and sarcasm in "*The School for Scandal*" with something from my scrap book quite as good in the way of epigram, and flashed upon some mischief which it is important should be seen. Here are full reports of lectures on history by Hedge, poetry by Lowell, science by Agassiz and Tyndall.

Here are Mill's speeches in Parliament, his free-trade letters to New York admirers, and Mr. Greeley's reply to them. You will find copious extracts giving the heart of the best modern books, and intelligent summaries of the systems they advocate. Here are occasional sermons into which leading American divines have put their most earnest thought. Here are vigorous expressions of the best political intelligence clipped from the leaders of the best newspapers. And, quite as important, here are little crisp criticisms of blundering political work from indignant citizens whose daily duty has brought them face to face with absurdities of legislation. Take the best newspapers by all means—as many of them as you can afford—and then take nine-tenths of their reading matter for granted. Some of it is good for nobody; much of it is good for somebody; but only a small part is wanted by you. But how precious are these fragments, if wisely chosen! If you are interested in the investigation of any political subject—and every American citizen should have some study of this sort—you will find in almost every newspaper an illustration of some aspect of it. Remember that it is better to subscribe to a few first-class newspapers, that you may read at home with the scissors in your hand, than to glance over a score of them in a public reading-room.

AN INTERESTING LETTER.

WE are permitted by the courtesy of Hon. H. W. Snow, Chairman of the Committee on Education in the House of Representatives of Illinois, to publish the following interesting and valuable letter, written by Wm. T. Harris, on the Study of the Natural Sciences in the District Schools. We have published in the *American Journal of Education* several articles bearing upon this subject from the pen of Mr. Harris, and there has been so much call for them, that we have thrown them into the form of "Educational Documents." Teachers and school officers order them singly, by the hundred, and by the thousand. We have as one Document, "Synopsis of Course of Study in the District Schools;" as another, "Syllabus of Lessons in Natural Science;" as another, "Natural Science in the District Schools."

From this, it will be seen, that Mr. Harris has given the subject a very careful and thorough examination, and his letter is of permanent value on this account:

OFFICE OF SUP'T PUBLIC SCHOOLS,
ST. LOUIS, March 20, 1873.

Hon. H. W. Snow, House of Representatives,
Springfield, Chairman Committee
on Education:

SIR—I hope you will pardon me, a stranger, for addressing you these lines. My excuse is, that a proposition is reported as before your Assembly to repeal that provision of your school law, passed last year, which relates to the study of the Natural Sciences in the District Schools. Although resident in another State, I have studied your school system with no small degree of admiration, and the provision in question is one that I think very wise and practical. Should it be carried into effect for two years, I do not apprehend any

danger of its repeal. It would, I think, be regarded on all hands a perfect success.

Perhaps my opinion may have more weight, when I state that I was formerly much opposed to any experiment of the kind, fearing that it would divide and distract the attention of the pupil from those cardinal branches which form the staple of the course of study in our common schools. An experience of more than a year with a system of this kind in this city, has convinced me that there need be no such danger, but that these lessons in Natural Science, if entirely oral, and not oftener introduced than three times per week, will improve the character of the instruction in all the regular branches of the course of study, as well as arouse a general interest on the part of the pupil to original investigation.

I am very much opposed to any movement that should look toward supplanting any of the branches that we now have in our common schools throughout the country. The paramount importance of reading, writing, arithmetic, geography, grammar and history, in unfolding the mind of the pupil, and in giving him the tools with which to put himself into practical and theoretical relation with the world around him and with his fellow-men, is to me beyond all question. It is only as a very valuable auxiliary to the other branches of the course that I would recommend lessons in Natural Science. We have found in the course of our experiment much more than we looked for. The results have been so remarkable that, with your permission, I will briefly name them:

1°. The teachers as a body have been under the necessity of making special preparation for these lessons, and have, in this way, become interested in a range of subjects that are now occupying the exclusive attention of the scientific intellect of the civilized world. (In this field fresh discoveries are continually made, and these in turn become the bases of inventions which make possible our [in America] great strides in productive industry.) The consequences are, that our teachers are getting possession of a vast fund of illustration to use in the regular daily lessons on the other branches, and these daily lessons improve in interest and scope.

2°. The pupils manifest great eagerness to understand the scientific explanation of the phenomena about them, and they carry with them into other studies a spirit of investigation and inquiry which aids them very much in digesting what was before only swallowed, or, at best, masticated. I am, sir, with the greatest respect,

Your obedient servant,

WM. T. HARRIS.

MRS. M.'S SHORT CALL.

Edmund T— was just finishing his recitation in Xenophon, and we were discussing the effect of Clearchus' disobedience to the orders of Cyrus, the loss of Cyrus' life, the victory of the great king, and retreat of the ten thousand Greeks, as the inevitable result. A faint knock sounded at the school-room door, as faint as if it were merely the door rattled by the Spring breezes; but I answered in full voice, "Come in!"

She came in and has just gone. She said some twenty minutes. Her errand was in regard to the edu-

cation of her elder son, a lad of 15. She came a stranger, and left as a personal friend. What a range of topics! yet all sprung from the one topic, the right education of that boy. He is a musical genius, the son of a music teacher. He has been educated at home entirely thus far. He has practised eight hours per day in music habitually, and practises yet four hours daily. He has played for Rubinstein, and received very kind encouragement and the assurance of a bright future from him. He is therefore to go to Europe in due time, to continue his musical culture. He played for our Philharmonic. Before he struck a note he sat a while in deep thought, feeling how critical, how responsible was his position, and, at last, spoke out calmly and seriously with reverent confidence, "Well, if God wishes me to do well, I shall be able to." He satisfied the great audience fully. So modest, so well-balanced, so thorough, so exact, so laborious, so unsparingly conscientious a boy becomes a teacher's supreme delight; drudgery of explaining, care in guiding, skill in connecting the steps of processes, examination of his daily work, anxiety to do justice to his memory, to his reason, his imagination—all become sources of intense and augmenting pleasure to his teacher.

Such a pupil inspires and electrifies a teacher's noblest powers, ripest attainments and holiest aspirations. Such a student would elevate all his class, all his school. The dullest would see how he plods. The laziest would be shamed by his clear and steady progress. The most timid would find a friend in him. May the God with whom he communed, inspire us all with a view of the bright future which awaits our scholars if we are skillful and faithful—a future as boundless and as blissful as the eternal years of our gracious and Almighty Lord. The dull here may be the brightest in the long and radiant hereafter. The school room ought to be, in this sense, "the very gate of heaven." Mrs. M.'s short call will remain very welcome in my memory, and for many a day to come. Why will not parents call oftener to consult as to the needs, wants and peculiarities of their children?

L. W. HART.

BROOKLYN, N. Y.

THE productive capacity of the people by which the State is enriched seems to be increased just in proportion as they become intelligent, so it seems to us, viewing the question of our public school system from whatever standpoint we may, it is a measure at once so beneficial in its results, and so sure to be mutually profitable, that every possible effort should be made to perfect and perpetuate it.

BOOK NOTICES.

THE TREATY OF WASHINGTON. Its Negotiation, Execution and the Discussions Relating Thereto. By Caleb Cushing. Published by Harper Bros., New York.

This is a unique work in the field of literature. At once entertaining and instructive, this work gives us a clear and exhaustive statement of the facts underlying the case, together with so much of its history as is necessary to an intelligent judgment on its entire merits.

An occasional digression from the briefest statement, and from the direct line of argument, serves only to give freshness and point to the whole discussion. It is the work of a man who is master of his subject. Caleb Cushing, the eminent lawyer, statesman and diplomatist, is the very man from whom we had every reason to expect a clear, exhaustive, able presentation of these important international interests.

For sale by Book & News Co., St. Louis.

HALF-HOUR RECREATIONS IN POPULAR SCIENCE. Dana Estes, Editor. Part 6. UNCONSCIOUS ACTION OF THE BRAIN. By Dr. Wm. B. Carpenter. Published by Estes & Lauriat, 143 Washington street, Boston. Price 25 cents.

Everything from the pen of this veteran scientist deserves careful consideration. The same line of thought may be traced in his more elaborate works. In this lecture the somewhat new direction given the discussion is rendered more popular by fuller illustration.

For sale by Book & News Co., St. Louis.

HALF-HOUR RECREATIONS IN POPULAR SCIENCE. No. 7. GEOLOGY OF THE STARS. An Address by Prof. A. Winchell, Michigan University. Published by Estes & Lauriat, 143 Washington street, Boston. Price 25 cents.

This little pamphlet carries us, by a bold generalization, to the consideration of the constitution of the planets, by viewing them from the standpoint of laws hitherto generally regarded as safely applied to our own earth alone.

For sale by Book & News Co., St. Louis.

NINETEENTH ANNUAL REPORT OF THE STATE COMMISSIONER OF COMMON SCHOOLS OF OHIO. Thomas W. Harvey, Commissioner.

We are glad to see the fullness and accuracy of statement which this report evinces in its presentation of the working of the public school system in Ohio.

The first twenty-five pages of the report contain a clear summary of the statistics given in detail by the different counties and cities in the State.

The several topics discussed by the Commissioner are well handled—some of them ably.

There are several of these Annual

Reports, from which excellent material might be selected for a volume that could not fail to effect great good in the direction of revolutionizing the habits of thought, and the unquestionably bad habits of practice, now found among many of our teachers.

REPORT OF THE SAINT LOUIS PUBLIC SCHOOLS.

Late years have inaugurated a practice, on the part of school authorities, which, under judicious management, is fraught with great good to the cause of education. We refer to the practice, now so general, of printing and distributing School Reports—National, State, City and Town Reports.

True, little which is new or really valuable finds its way into many of these regular annual contributions to our literature. Some marked exceptions to this general statement we are very glad to notice. At the head of the list possessing very great merit, we place two reports that have lately reached us: The Illinois Report, by Newton Bateman, and the Report of the St. Louis Public Schools, by Wm. T. Harris.

In one or both of two particulars many reports fail to interest us. They either discuss no new points in our school economy, or they fail to present any new phases of the many old subjects so often discussed. Both the Reports just alluded to, handle with marked ability many familiar topics, and furnish us with a clear and vigorous presentation of several topics that are new.

Among the subjects considered by Mr. Harris, two will amply repay any one who may give them, not merely a careful reading, but the most thoughtful study. These subjects are, "Course of Study," and "The District Schools."

The *Kansas Magazine* for May, published at Topeka, Kansas, comes to us with its bold and significant figure-head of a buffalo, looking out from the distant vista of the plains that are backed by the Rocky Mountains.

In a purely literary point of view, this monthly may not, nor does it pretend to, cope with one or two at the sea-board. And yet, as we have said a hundred times on opening some of those older periodicals, "deliver us from over-studied literariness," where words are fine and refined, but thoughts are neither original nor strong."

Perhaps, to begin at the close, the first of the editorial articles is the best written article of any in this number. We like both the language and the ring of true principle and moral sentiment of that article. This magazine is consistent with itself and

its locality, as shown in the character of some of its best contributions; e. g., the first is by Governor Chas. Robinson, first Constitutional Governor of Kansas. The title is appropriately called "Ad Astra per Aspera," revealing the early difficulties of that State, which has the honor of being the Pilgrim-land of the West. This is a truly valuable historical contribution, and will attract attention.

The next article on "Forest Trees in Kansas," is timely and almost exhaustive. If "he is a public benefactor who causes two blades of grass to grow where there was but one," much more shall the man immortalize his name who causes two forest or fruit trees to grow in the place of one!

Two other noticeable articles are "Gems of Christian Missions," and "A Buffalo Hunt by Rail."

"Across the Plains in '59" has, to say the least, very poor literary merit, and it is surprising that some of the ungrammaticalisms were not cut out. Success to this magazine!

PROCEEDINGS OF THE MISSOURI STATE TEACHERS' ASSOCIATION, held at Kirksville, Dec. 26 and 27, 1872.

The first twenty pages of this report are given to the various discussions growing out of the subjects presented for consideration. The remaining sixty pages contain the several papers read before the Association. The pamphlet comes to us in a very presentable condition. It is a decided improvement on the report of last year.

The papers on "Constructive Language," "How to make the Study of History Profitable in Schools," and "The Study of English Literature in School," are interesting and instructive.

This report may be had by applying to Prof. Oren Root, Carrollton, Mo., or at the office of the *American Journal of Education*, 710 Chestnut street, St. Louis.

NEW BOOKS.—J. B. Ford & Co. send us:

STAR PAPERS; or, Experiences of Art and Nature. New Edition, with about thirty additional papers; selected from later writings. By Henry Ward Beecher. 12mo. 460 pp. Cloth, \$1.75. Uniform with *Y'a Lectures on Preaching and Lectures to Young Men*.

NEW LIFE IN NEW LANDS; Notes of Travel across the American Continent, from Chicago to the Pacific and back. By Grace Greenwood. 12mo., 415 pages. Cloth, \$2.

MOTHERLY TALKS WITH YOUNG HOUSE-KEEPERS. By Mrs. H. W. Beecher. With Carbon-Photographic Portrait of the Author. 12mo. 504 pages. Cloth, \$2.

BEECHER'S SERMONS; *Seventh Series*, September, 1871–March, 1872. *Eighth Series*, March–September, 1872. (Also ready the Six Series preceding, each 1 vol. 8vo. Uniform style and price.) From Mr T. J. Ellinwood's verbatim reports. Each volume contains twenty-six sermons, and the prayers before the sermons. 8 vols., 8vo. 450–550 pp. each. Cloth, \$2.50 per vol.

For sale by St. Louis Book and News Company.

THE EDITORIAL CONVENTION.

THE next annual Convention of the Editors and Publishers of Missouri, will meet at the city of Louisiana, Mo., on Wednesday, May 28, 1873, at 10 o'clock A. M.

ORDER OF EXERCISES.

1. Convention called to order by the President.

2. Address of Welcome.

3. Response.

Annual Address by Gen. John S. Marmaduke, of the *St. Louis Journal of Agriculture*.

5. Poem by John G. Provines, Esq., of the *Fulton Press*.

6. Miscellaneous business, including sundry papers on important topics pertaining to journalism.

7. Election of officers for the ensuing year, and the election of rules for the government of future conventions.

The citizens of Louisiana have arranged for a grand banquet on the evening of the 28th.

So far, the arrangements look well, and the fraternity will be under special obligations to Dr. Hull, our worthy President, and to A. P. Sebley, Esq., the Secretary, both of whom have been doing everything in their power to make the occasion one of profit and promise.

EXCURSION TICKETS EAST.

THE Grand Trunk Railway Co. will, in connection with the Illinois Central and Chicago, Alton & St. Louis Railway Companies, from St. Louis and with Illinois Central from Cairo, offer the citizens of the South and West excursion tickets to Boston and return at \$45 for the round trip. Sale of tickets to commence June 1st, at ticket office of above companies, at St. Louis and at depots of Illinois Central Railroad at Cairo. These tickets will be good going East until October 1st and to return before November 1st. All the lines over which they pass are in splendid condition. The Grand Trunk particularly will offer every comfort and convenience. A Pullman car will run from Chicago to Boston and principal points in New England with but one change, and to Montreal WITHOUT CHANGE. For a small additional expense parties may visit Niagara Falls or the wonderful Thousand Islands and Rapids of St. Lawrence en route. Full particulars of excursions may be obtained from "International Tourists' Guide," which may be obtained FREE of charge on application by letter or in person to John Bentley, Ticket Agent Illinois Central Railway, 102 North Fourth street, S. H. Knight, Agent Chicago, Alton & St. Louis Railway, corner Pine and Fourth streets, or C. I. Baldwin, Agent Grand Trunk Railway, St. Louis, Mo., and Jas. Johnson, Agent Illinois Central Railroad, Cairo, Ill.

The American Financial Corporation.

A CORRESPONDENT of a number of leading daily and weekly papers in the West, who is not only fully posted, but whose statements can be depended upon, in speaking of this new movement in financial matters in St. Louis, says:

Among the Managers and Directors of "the American Financial Corporation will be found such names as: John J. Taussig, member of the banking firms of Taussig, Gempp & Co., St. Louis; Taussig, Fisher & Co., New York; Gempp & Taussig, Frankfort on the Main, and vice-president Mo. Pacific Railroad. H. T. Wilde, president West St. Louis Savings Bank; vice-president Western Savings Bank; L. J. Holthaus, director West St. Louis Savings Bank; Geo. W. Lubke, director Western Savings Bank, and West St. Louis Savings Bank; W. F. Wernse, director West St. Louis Savings Bank, and Western Savings Bank; names which are known in this country, and in Europe, in financial centers, as every way reliable and responsible. They propose here, at home, to purchase, sell and negotiate Bonds of States, counties, railroads, cities and towns, and make advances on Bonds deposited for sale, at all times. School Bonds a specialty. The safe investment of funds in bonds or loans on real estate security for capitalists of this and other countries. Orders for the purchase of first-class investment securities of all kinds will receive prompt and careful attention. So that if a railroad company, a State or county, a town or city wish to issue bonds for any purpose, they can be sold here for the highest market price: Mr. Wm. F. Wernse, the secretary and treasurer of the American Financial Corporation, has been the cashier and general manager of the West St. Louis Savings Bank from its first start, and has won an enviable reputation as a first-class financier, and a reliable business man, throughout the leading cities of the country. This West St. Louis Savings Bank stands as one of our safest and strongest monied institutions.

Our German population are among the most industrious and economical citizens, and they have held a large amount of money, which has, for the most part, been unproductive until it has been gathered up and deposited in these Savings Banks.

Mr. Wernse commands the full confidence of these people, and they have placed a large amount of money at his command, and he is making a judicious and profitable use of it.

We have been dealing with this institution for some time past, and so we know from personal knowledge and observation whereof we speak. The capital of the American Financial Corporation is limited to \$1,000,000. This, however, will aid our people, who wish to develop the immense resources of this and other States, very materially.

OFFICE SUP'T PUBLIC SCHOOLS, }
ST. LOUIS, March 22, 1873.

I have carried an Elgin Watch of the Raymond pattern for upwards of a year. I find that it improves by use. During the past thirty days it has varied from the most accurate chronometer in this city less than two seconds.

[Signed] WM. T. HARRIS,
Superintendent.

TEACHERS WANTED.—The Board of Education at Cameron, Mo., have appointed April 15th for the examination of all applicants for positions in the school which they purpose organizing there early in May next.

The very elegant building now in course of erection will soon be ready for occupancy.

Four assistant teachers will be appointed for the opening term of three months, who, if they prove satisfactory, will doubtless be retained by the Board for the ten months' term, to commence in September next.

Remunerative salaries will be given.

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New Haven, Conn., 1872.

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The course of study has been prepared with a view to afford the greatest possible amount of practical instruction, and at the same time secure broadest culture and the most thorough training of the mental powers. The philosophy and methods of teaching will receive special attention during the course.

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Incidental Fee, \$5.00 per term. Board from \$3.50 to \$4.00 per week. Rooms for self-board and clubs can be obtained at reasonable rates.
For further particulars apply to
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V. **THE ST. LOUIS LAW SCHOOL.** (See advertisement below.) may-4nos

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G. M. Stewart, Esq., Law of Contracts, Commercial Law.

LECTURERS.

Hon. Samuel Treat, U. S. District Judge, Eastern District of Missouri.

Hon. Albert Todd.
Hon. John M. Krum (late Judge of St. Louis Circuit Court).

Regular annual session will open October 9, 1872. Full course two terms of six months each. Tuition, including use of library, \$60 per term; no extra charges. Students admitted to either class on examination until January 1st, 1873. For particulars address
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THE BOTTLE.

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2. He is discharged from his employment for drunkenness. "They pawn their clothes to supply the bottle."
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5. Cold, misery and want destroy their youngest child. "They console themselves with the bottle."
6. Fearful quarrels and brutal violence are the natural consequences of the frequent use of the bottle.
7. The husband, in a state of furious drunkenness, kills his wife with the instrument of all their misery.
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SOUTH MISSOURI STATE NORMAL SCHOOL,
WARRENSBURG, Mo., April 21, 1873.

Gentlemen:

Inclosed please find draft for \$75 for the bill of Globes which you sent. We have received the globes and we are greatly pleased with them.

Truly yours,

JAMES JOHONNET,
Principal.

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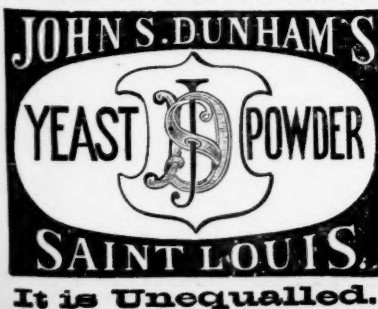
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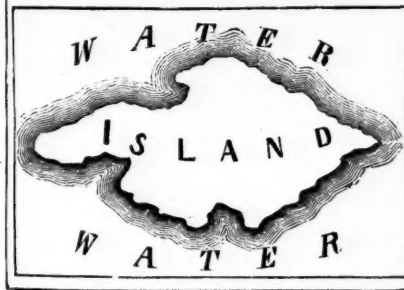
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The *Milwaukee News*, of a late day, says in regard to its adoption in the schools of that city:

The Board of School Commissioners, at their meeting last evening, adopted for use in our public schools a new article of school apparatus, which seems likely, if faithfully used, to effect marked improvement in the work of arithmetical teaching. It is simply a moveable chart, with large figures capable of being read across any school room, and so arranged as to afford, by a simple turn of a crank, an exhaustless variety of graded examples in the fundamental rules of arithmetic. The instrument is not designed to assist in any theoretical-teaching, but simply to afford a means for *practice* in addition, multiplication, &c., which can now only be given in limited quantities, with the blackboard, and without which it is impossible for pupils ever to become tolerably expert in combining numbers. They are not taught *how* to do this work, and they do not get sufficient *practice* to enable them to *do it* with rapidity or accuracy, in consequence of which, much time is wasted in the schools, and the pupils when graduated, are of little use in positions requiring skill in accounting.

Price's Chart has been thoroughly tested in other cities, where remarkable results have come from its use.

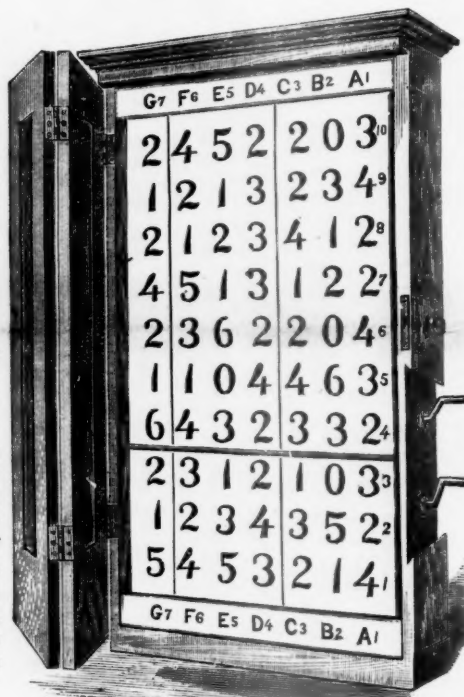
IT MEETS A GREAT WANT.

PARENTS, teachers, school officers, business men, in fact the whole public demand that something more practical and efficient shall be done in our public schools to fit the pupils for the every-day duties of life. Every clerk cannot carry "the side of a barn" or a "barn doot" in his pocket to "figure on." Rapidity and accuracy, such as is demanded from clerks and book-keepers in every counting-room, comes from *drill*, and this drilling should be done in the school-room. The use of PRICE'S ARITHMETICAL CHART will enable the teacher to do this important work, as shown by an editorial notice of it in the *Milwaukee Sentinel*, of late date. The editor says:

By reference to the proceedings of the Board of School Commissioners in another column, it will be seen that PRICE'S ARITHMETICAL CHART has been introduced for use into the public schools. This device seems to meet a great want in our school system, and we are glad to note the action of the Commissioners in adopting it. It is well known to every one that the pupils who graduate from the highest grades of our American schools are seldom able to make the simplest arithmetical computations with even a fair degree of rapidity or accuracy; they may be skilled in the mysterious "cube root," or possibly to demonstrate Sturm's theorem, but they cannot add up a column of figures and be sure they have the proper amount without "proving." PRICE'S ARITHMETICAL CHART remedies this, by affording the means for such an exceedingly rapid drill in the fundamental operations of arithmetic as will enable teachers, without encroaching on other duties, to make their pupils exceedingly proficient in this important but much neglected accomplishment. This chart has been thoroughly tested in Detroit and other cities, and found satisfactory.

THIS device consists of a neat and substantial wooden case, about three feet high, twenty inches wide, and five inches thick or deep, closing in front with two panel doors, and secured by lock and key. As an article of furniture, this case presents a neat and tasteful appearance. Inclosed within the case are arranged four horizontal rollers, to two of which are attached the Chart, covering eight yards of canvas, comprising seventy-six horizontal rows of figures, each row extending either to Millions or to Billions, and all arranged in perpendicular columns. These are model Blackboard figures, and being of uniform size, just two inches high, and heavy faced, they may be readily seen at a distance of thirty feet.

The Chart being attached to two rollers, to one end of each of which may be applied a crank, the entire face surface of the Chart may be readily passed, either upward or downward, before the class, presenting to view ten horizontal rows of figures at a time. By this manœuvre, each of the whole seventy-six horizontal rows of figures may become the lower or bottom row, and by this means all the exercises for *Practice* are presented to the Class or School in precisely the same order as they would be if written successively upon the blackboard. Besides the seventy-six rows on the Chart, there are seven additional rows placed on thin wooden slats, to be used at pleasure, one or more at a time, and when in position they remain stationary, each covering one of the horizontal rows on the



canvas—while the Chart, by the application of the crank, is free to move either up or down behind the slats—and in this manner *more than fifty thousand different combinations or examples in addition may be produced in an equal number of seconds.*

In order to facilitate the operations in Multiplication and Division, there is, in addition to the Chart and the slats, a series of figures and blanks mounted on small plates of galvanized iron, to be used as insets on the bottom row.

The primary object of this Chart is to furnish the School-room with READY-MADE BLACKBOARD EXERCISES, comprising a complete and graded series of examples for drill and practice in the *Fundamental Rules of Arithmetic* embracing Numeration, Addition, Subtraction, Multiplication and Division, together with special exercises in reading and writing various and difficult combinations of numbers.

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Each Chart is accompanied with directions for use.

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Prof. J. B. ROBERTS, Superintendent Public Schools of Galesburg, Ill., and late President of Illinois State Teachers' Association, also sends the following indorsement:

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